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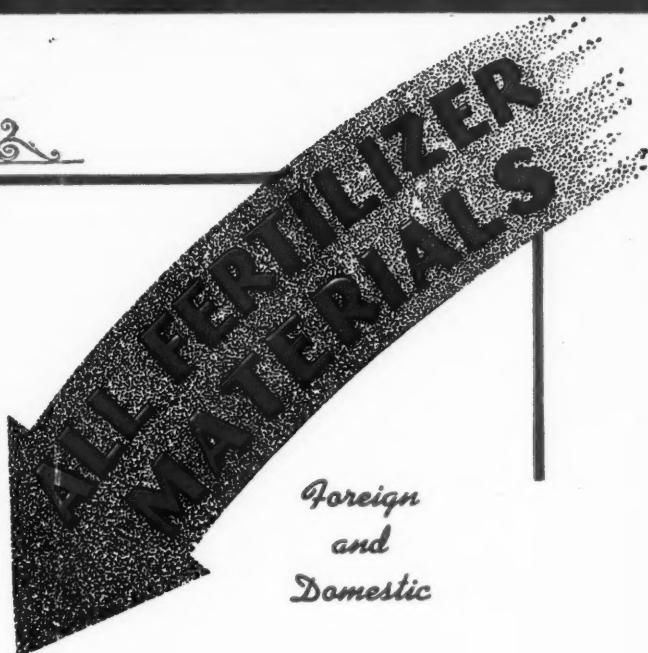


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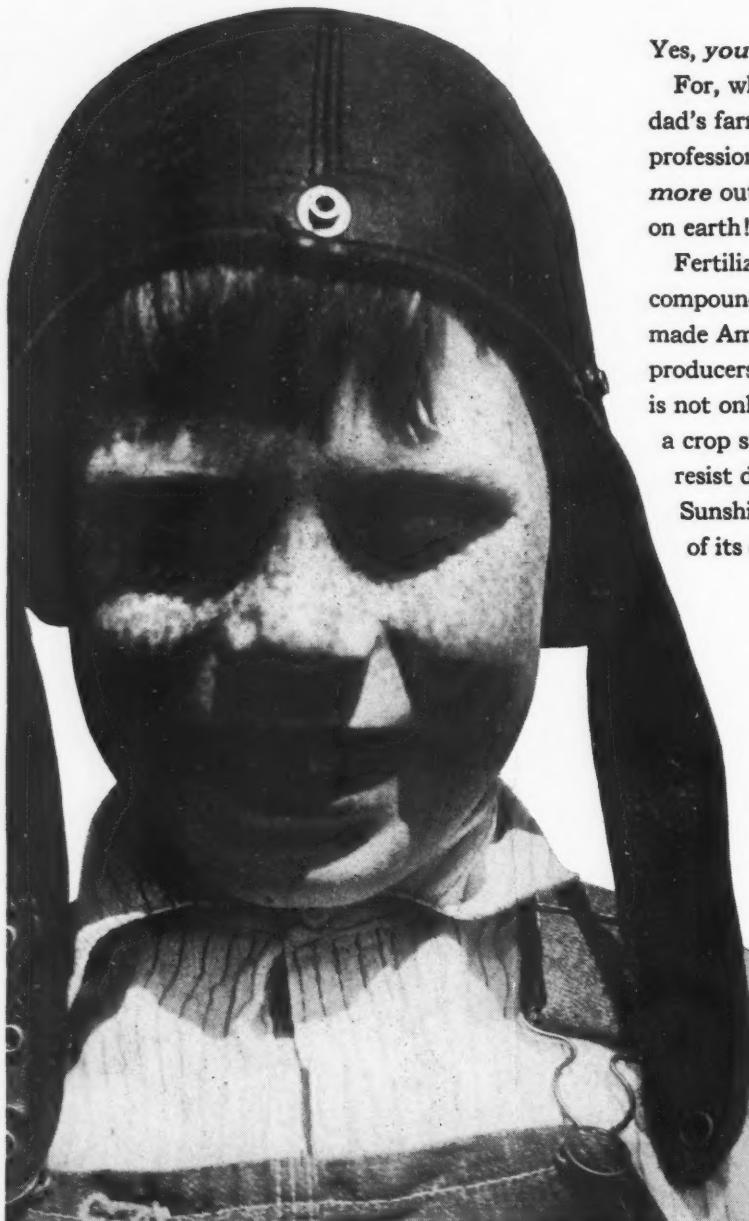
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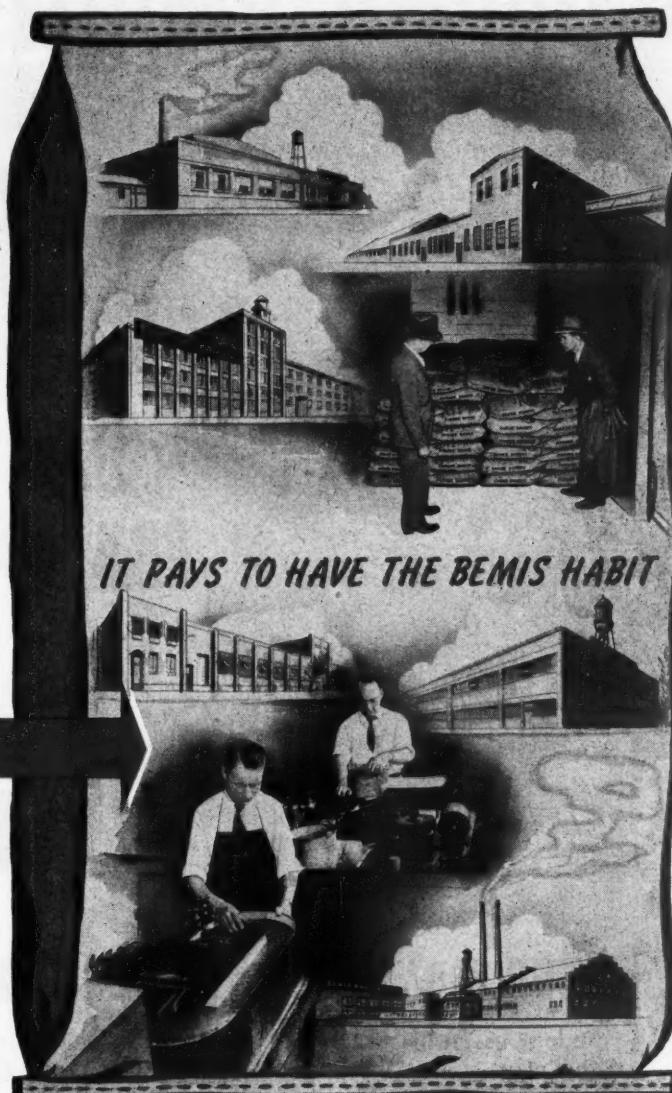
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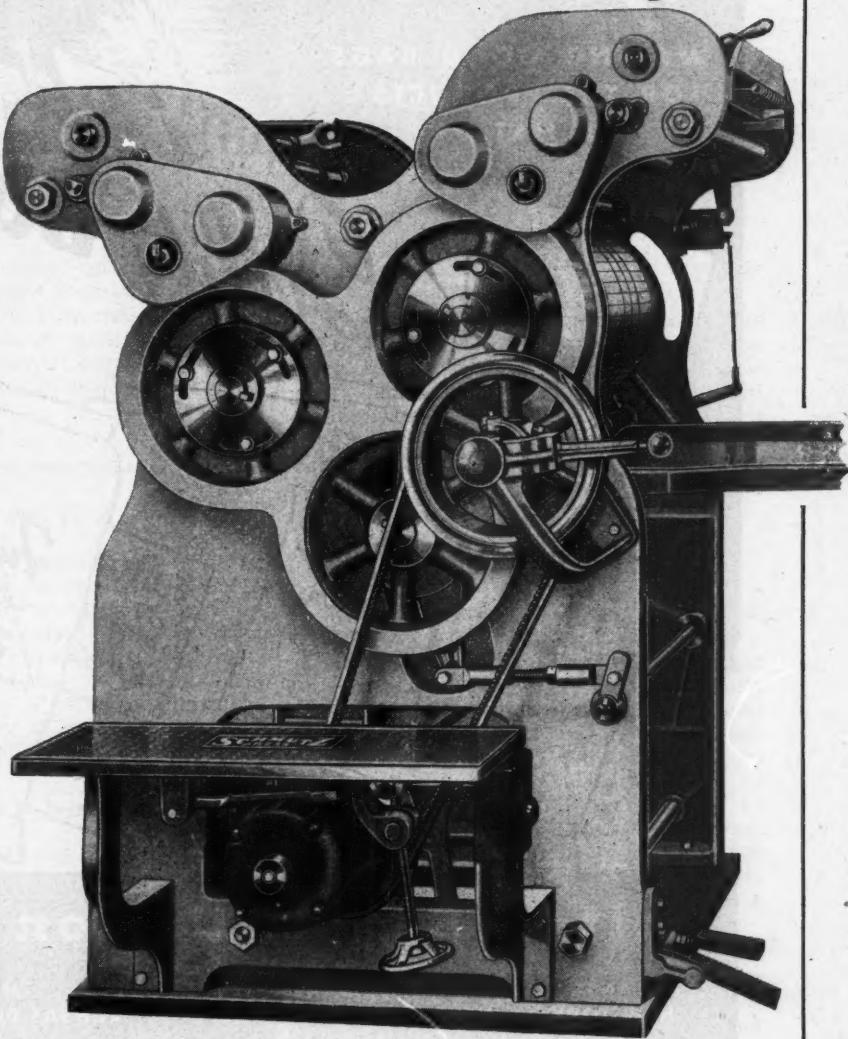
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The American FERTILIZER

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FEBRUARY 22, 1947

No. 4

Virginia Fertilizer Experiments

In the annual report of the Virginia Agricultural Experiment Station, Blacksburg, Virginia, covering the year ending June 30, 1946, progress reports are made on a number of fertilizer experiments being carried on at that Station. The following are excerpts from this report.

Give Orchard Grass Nitrogen

G. D. Jones and T. J. Smith

Orchardgrass experimentation in the adapted sections of Virginia showed that as more fertilizer is applied, seed yields increase proportionately. Not only did the yield show marked increase, but the quality improved. And it was also found that the seed produced from plots receiving a nitrogen equivalent to 300 pounds nitrate of soda contained less wild onion than the plots not getting nitrogen.

Facts on How To Fertilize Corn

H. L. Dunton, M. H. McVickar, and Field Station Agronomists

This research was first started in the spring of 1945, under the direction of T. B. Hutcheson who was then head of the agronomy department. Different amounts of nitrogen, phosphoric acid and potash were applied to corn in the following way: (1) in the row at seeding time; (2) broadcast and plowed under; (3) placed on the bottom of the plow furrow

and (4) applied as a side dressing when the corn was 18 inches high.

When small amounts of fertilizer were used, the row application proved to be the most economical. The one year's data show profitable returns when large amounts of fertilizer are used. Best results were obtained from large quantities by placing the fertilizer either in the bottom of the furrow or by broadcasting on the land before plowing.

Top Dressing of Alfalfa

H. L. Dunton and Field Station Agronomists

Varying applications of fertilizer in respect to formula and amounts are applied to alfalfa at the Blacksburg Station as well as several of the outlying field stations. Annual treatments involved are: (1) 800 lbs. 0-12-12, no boron; (2) 800 lbs. 0-12-6 with 10 lbs. of borax per acre added; (3) no fertilizer, 10 lbs. borax; (4) 400 lbs. 2-12-12, 10 lbs. borax; (5) 400 lbs. 0-12-12, 10 lbs. borax; (6) 400 lbs. 0-6-12, 10 lbs. borax; (7) 400 lbs. 0-12-6, 10 lbs. borax; (8) 800 lbs. 2-12-12, 10 lbs. borax and (9) 800 lbs. 0-12-6, 10 lbs. borax.

The fertilizer applications are applied as an annual top dressing in late winter or early spring before active growth starts. Yields to date indicate a significant increase for the 800-pound treatment over the 400-pound treatment. Also, on a Berk's silt loam at the Shenandoah Valley Field Station,

2-12-12 proved slightly more successful in yield value.

Station bulletin 393 entitled "Alfalfa Production in Virginia" comments on the cultural practices deemed best for this crop.

Long Time Fertilization Rotation Still Going Strong

S. S. Obenshain, M. H. McVickar and H. L. Dunton

This set of trials, established back in the dim past, 1909, by T. B. Hutcheson is the oldest research project in the Experiment Station, and the original plan is in operation today with a few modifications. The experiment involves a four-year rotation with corn, wheat, and first and second year hay crops on Dunmore silt loam, one of the better upland soils of the State. Data from these plots have served as a basis for many fertilizer recommendations.

As set up early in the 1900's, thirteen fertilizer treatments were put down with a check plot adjacent to each treatment area. In 1942, the treated sections were subdivided into three parts. Part I continues to receive the original treatment, part 2 was marked for a residual study and has received no fertilizer since 1941. Part 3 was devoted to a "build back" study and has received fertilizer since 1942 in such ratios and amounts as to balance the former application.

Crop yields on the original treatment section remain fairly constant, but on several plots in the residual section the yields are declining slowly, however on plot 3, or build back, the crops have produced more favorably. For example, 27.6 bushels of corn were harvested on the plot which has received only 40 pounds of nitrogen per acre per year since 1909, while in contrast 72.7 bushels of corn were obtained from the area that received the identical treatment through 1941 but since that date had received an annual application of 70 pounds of P_2O_5 and a 100 pounds of K_2O . These are 1942-45 averages.

Continuous Cropping on Old Rotation

Closely allied to the previous story, and conducted by the same operators is the continuous corn, wheat and hay plots. First set up in 1909, each crop receives the following treatment: (1) no fertilizer, (2) 16 tons of barnyard manure every fourth year and 219 pounds of raw rock phosphate annually. Yields, under the 1909-45 averages, are: corn, no fertilizer, 16 bushels to the acre. Plots

treated with manure and phosphate gave 34.8 bushels of corn. Wheat under (1) yielded 8.6 bushels per acre and under (2) 16.7 bushels per acre.

Continuous hay cropping under (1) 2273 pounds per acre and (2) 4320 per acre.

Peanut Fertilizer Placement

*E. T. Batten and G. A. Cummings**

Peanut seed is extremely susceptible to fertilizer scald, this condition caused by the chemical being placed too close to the planted seed. And too, growers have known that poor stands often result from fertilizer applications at planting time. Thus, in 1939, a series of experiments were initiated to find out just where fertilizer should be applied in relation to seed location in the ground.

Inasmuch as most fertilizers used on peanuts are high in potash, two different kinds of fertilizers were written into the experiment, one in which the potash was derived from 14 per cent kainit and the other with potash supplied by 50 per cent muriate. Fertilizer was put down in bands varying both vertically and horizontally in relationship to seed location. These placements were compared with grower methods used locally.

During an interim of five years, germination was stable if the fertilizer was applied in bands as far as two inches to the side of the seed, regardless of the source of the potash. If the chemical was closer than this distance, or placed directly under the seed, germination was cut down in the case of kainit, the high salt index fertilizer. Germination was little affected when the potash used was derived from concentrated salts, or the 50 per cent muriate.

Good Fertilization and Tobacco Spaced Right Makes Money

E. M. Matthews

Tobacco receiving 1200 pounds of 3-9-6, thoroughly mixed in the furrow row before listing and side dressing with 100 lbs. 8-0-16 twenty days after planting, produced a crop worth \$730.00 to the acre. All plots received 2½ pounds of borax per acre and the plants were spaced 20 inches apart in four-foot rows. Contrasted with above treatment, tobacco received 900 lbs. 3-9-6 fertilizer, not mixed with soil listing, and no side dressing, sold for only \$563.00 per acre. Here plants were spaced 24 inches apart in four-foot rows.

*Senior Agricultural Engineer, Beltsville, Md.

Boron Boosts Tobacco Yields at Chatham

Experiments conducted at the Bright Tobacco Station by E. M. Matthews and M. H. McVickar point out pretty well that small applications of borax, mixed in with the regular fertilizer applications, increase the acre yield and the acre value of bright tobacco. Mammoth Yellow was the test variety used until 1944, and Yellow Special, a newer variety developed at the Bright Tobacco Station, was grown in 1944 and 1945. Each treatment occupied the same plot locations in the field for the four-year period.

Evidence gained from Table 1 points clearly that over the four-year period, the addition of borax at the rate of 2½ pounds per acre has been a profitable practice. At the bottom of the table the 1942-45 average results for yield and acre value are given for all plots not receiving borax and for all plots receiving borax.

The no-borax-treated plots yielded an average of 1,186 pounds of tobacco per acre, as compared to 1,247 pounds from the treated plots. This 61 pounds per acre figures up to a 5.14 per cent increase in favor of borax. Tobacco from the treated plots sold for an average of \$577, while the no-borax areas returned only \$550, thus getting \$27 for the application of 2½ pounds of borax.

When following this recommendation, care must be used not to exceed the 2½ pounds per acre application, and furthermore, the borax must be mixed thoroughly with the fertilizer being applied. Should the borax be omitted before planting, it may be mixed with a side-dressing fertilizer and applied approximately 20 days after the plants are set.

Particle Size of Fused Rock Phosphate

John D. Pendleton

This series of tests, started in 1943 and continuing through 1946, show that 80-mesh fused tricalcium phosphate and 40-mesh fused tricalcium phosphate produced yields and profits comparable to triple superphosphate. The field work was conducted at Blacksburg and at the Bright Tobacco Field Station at Chatham.

Time and Rate of Ammonium Nitrate

John D. Pendleton

Blacksburg and three outlying stations were the scenes of the effects of varying the time and rate of application of ammonium nitrate to field crops. At the present, it appears that 25 pounds of nitrogen as NH_4NO_3 applied at

(Continued on page 30)

TABLE I.
THE EFFECT OF BORAX ON THE QUALITY OF BRIGHT TOBACCO APPLIED AT PLANTING TIME,
CHATHAM, 1942-45 INCLUSIVE

Treatment	Acre yields					Acre value				
	1942	1943	1944	1945	Average 1942- 1945	1942	1943	1944	1945	Average 1942- 1945
900 lbs. 3-10-3	Lbs. 1,058	Lbs. 1,304	Lbs. 1,107	Lbs. 1,128	Lbs. 1,149	Dols. 473.00	Dols. 613.00	Dols. 496.00	Dols. 545.00	Dols. 532.00
900 lbs. 3-10-3 plus	1,096	1,372	1,163	1,174	1,201	491.00	648.00	530.00	568.00	559.00
900 lbs. 3-10-10	1,034	1,389	1,204	1,245	1,218	468.00	645.00	550.00	580.00	561.00
900 lbs. 3-10-10 plus	1,222	1,413	1,237	1,240	1,278	532.00	659.00	565.00	605.00	590.00
900 lbs. 3-6-6	1,112	1,277	1,110	1,137	1,159	489.00	592.00	505.00	552.00	534.00
900 lbs. 3-6-6 plus	1,140	1,230	1,240	1,179	1,197	504.00	577.00	561.00	569.00	553.00
900 lbs. 3-12-6	1,148	1,290	1,186	1,249	1,218	499.00	653.00	538.00	605.00	574.00
900 lbs. 3-12-6 plus	1,204	1,478	1,273	1,307	1,315	526.00	683.00	579.00	631.00	605.00
Average of all plots receiving no borax					1,186	....	....	....	....	550.00
Average of all plots receiving borax					1,247	....	....	....	....	577.00
Average of all plots, except 3-6-6 treatment, receiving no borax					1,195	....	....	....	....	556.00
Average of all plots, except 3-6-6 treatment, receiving borax					1,265	....	....	....	....	585.00

Potash Allocation Ended

The Civilian Production Administration ended allocation of potash on February 17th by revocation of schedule 120 to conservation Order M-300.

This action will not affect allocations already made for the period ending March 31, 1947, CPA said, since all users now have contracts with producers for their potash quotas for the current fertilizer period.

Although there has been no improvement in the potash supply situation in recent months, allocation was ended in keeping with the general policy of removing controls and in accordance with a recommendation from the Department of Agriculture, CPA said.

Mixers of fertilizers have requested 66 per cent more potash than is available. Producers estimate that 118,900 tons of potash, basis K₂O, will be available in the "spot" potash period, April-May, 1946.

Potash was first allocated in April-May, 1943. The original allocation order was revoked September 30, 1945. Schedule 120 was put in effect June 1, 1946.

French Potash Imports Resumed

After being cut off since 1941, imports of French potash into the United States will be resumed in time to boost the short domestic supply during the so-called "spot" fertilizer period in the spring, the Civilian Production Administration was informed on February 13th by the French Supply Council.

The schedule sent to CPA by the French agency calls for shipment of 5,500 short tons of potash, basis potassium oxide, in March, 5,500 tons in April and 5,000 short tons in May.

CPA asked the French Government to expedite deliveries against its international commitment, made through the International Emergency Food Council, when it became apparent that the United States domestic supply of agricultural potash for April-May, 1947, would be 25 per cent below what was available in the same months last year.

Before the war enough potash customarily was shipped from France and Germany to the United States to meet approximately 50 per cent of domestic requirements for fertilizer. Although domestic potash production has more than doubled since imports from Europe were cut off in the 1940-1941 fertilizer year, it has not reached the level to

which demand has skyrocketed since the beginning of the war, CPA said.

Sales of the imported French potash will be made through the French Potash & Import Company, Inc., 51 East 42nd St., New York.

German Potash Expected This Season

The Government hopes to arrange for delivery by the end of May of about 25,000 tons of potash, K₂O, available for export to the United States from the Soviet zone of Germany.

Negotiations for financing the purchase of this tonnage are in progress and the outlook is favorable for their successful conclusion soon, a Department of Agriculture spokesman said.

Delivery of the German potash would augment estimated domestic productions of 118,900 tons and promised deliveries from France of 16,000 short tons, at present the only supplies available to meet the unusually high agricultural needs in spot period of April and May.

Smith Agricultural Chemical Adds to Board

At the annual meeting of the Smith Agricultural Chemical Company, Columbus, Ohio, the Board of Directors was increased from seven to nine by the addition of Lowry Sweney, president of Sweney, Cartwright and Company, and of Marshall Abbott Smith, son of the late H. Albert Smith, former president of the company.

The officers of the company were re-elected as follows:

John E. Powell, President; Nelson T. White, First Vice-President and Director of Sales; Howard F. Kimble, Vice-President and Branch Manager of Indianapolis Plant; Dick Miles, Vice-President and Branch Manager of Holland, Michigan Plant; Clement S. Schmelzer, Treasurer; Carl E. Veth, Secretary; Joseph W. Sheeran, Assistant Treasurer and Auditor; Frank H. Nicklaus, Ssistant Secretary; Elmer C. Barsch, Branch Manager of Saginaw, Michigan Plant; Giles Simonis, Plant Manager, Carey, Ohio.

The new director, Marshall Abbott Smith, has recently returned to civilian life after serving four years in the Armed Forces in Europe. On January 11th he married Miss Muriel Pearl Landers, of Abertillery, Monmouthshire, England.

New Bemis Vice-President

At a meeting of the Board of Directors of Bemis Brothers Bag Company, St. Louis, February 7, 1947, R. D. McAusland, Seattle, was elected a Vice-President of the Company.

Mr. McAusland started his career with Bemis in 1900, becoming Manager of their Seattle plant in 1913. Since 1936 he has been a Director of the organization and was appointed Pacific Coast General Manager in 1941.

As in the past, Mr. McAusland will maintain headquarters at Seattle and guide Bemis West Coast operations from that point.

Delaware Tomato Fertilizer

The Delaware Agricultural Experiment Station has found that broadcasting and plowing down 1,200 pounds to the acre of 5-10-10 fertilizer before setting out tomato plants, instead of the usual practice of broadcasting fertilizer on top of the ground increased yields by about one ton to the acre.

The Station has also found closer spacing of tomato plants boosted yields. Growers who have tried the two practices find that they work for them too.

Union Special Adds to Factory

Union Special Machine Company, manufacturer of specially designed industrial sewing machines, has recently announced the completion of a construction project which adds three new upper floors to its factory in Chicago.

Already in full use, the new addition was made with several views in mind—to facilitate the production of urgently needed machines and parts, to provide better working conditions for employes, and to take care of future business expansion.

Before the addition was started, the company employed a firm of industrial engineers to make a complete survey of manufacturing methods and specifically to make recommendations on the flow of materials through the plant, as well as on the purchase of the latest type of manufacturing machinery available. As a result of this engineering survey, the company has made many changes in its manufacturing methods and has made a large investment in additional high-speed, precision machinery.

One of the most radical and important changes was made in the manufacture of

standard sewing machine adjusting parts. The manufacture of these parts has been removed from the regular production channels and has been consolidated on one floor in special engineering line production units, which permits the processing of finished parts in a continuous flow and thus facilitates delivery.

December Superphosphate

Normal superphosphate production in December was the highest on record during the past four years, according to the U. S. Bureau of Census. Although stocks at the end of December showed a 10 per cent increase over those of the previous month, they were at the lowest level for any December during the past four years. Total supply increased 6 per cent in December compared with the previous month. Disposition showed a 5 per cent increase over November, but production again exceeded disposition.

Total supply of concentrated superphosphate continued to increase in December and was at the highest level for any month since January 1943. Production showed a seasonal decline but was 20 per cent above that of December 1945. Total disposition increased 23 per cent over the previous month and exceeded production by 1,454 tons. Stocks on hand at the end of the month were slightly below those on hand at the end of November but were 68 per cent above December, 1945.

Total supply of wet-base goods increased for the sixth consecutive month but was slightly below that of a year ago. Total disposition showed a 11 per cent decrease compared to November, but was six times the disposition for the same month last year. Production increased 8 per cent and stocks at the end of the month increased 15 per cent above that of last month.

	Normal 18% APA	Con- centrated 45% APA	Base Goods 18% APA Tons
Production			
Dec., 1946.....	709,122	28,134	3,818
Nov., 1946.....	668,309	31,633	3,548
Dec., 1945.....	593,594	23,484	4,121
Shipments and Used in Producing Plants			
Dec., 1946.....	664,252	29,588	2,047
Nov., 1946.....	632,954	23,989	2,303
Dec., 1945.....	594,566	24,530	318
Stocks on Hand			
Dec., 31, 1946....	646,279	54,713	13,616
Nov. 30, 1946....	584,094	56,167	11,845
Dec. 31, 1945....	808,027	32,556	15,577

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Senator Butler Finds House Fertilizer Report Adequate

Senator Hugh Butler of Nebraska, who on February 3rd introduced Senate Resolution 78 calling for an investigation to determine the causes of the fertilizer shortage, on February 17th endorsed the conclusions and recommendations of the House Agriculture Sub-committee on Fertilizer which he described as having done "a very thorough job of analyzing the problem."

Reaction of Senator Butler to the House report led Clifton A. Woodrum, president of the American Plant Food Council, to conclude that the proposed Senate investigation will not be "pushed" at this time, although the resolution still is before the Senate Agriculture Committee.

"I hope every member of the Senate will find the opportunity to read the short report by the Sub-committee on Fertilizer of the House Agriculture Committee entitled '1947 Fertilizer Supplies,' issued February 10th," Senator Butler told the Senate in session. "I believe this report should be required reading for everyone interested in helping to meet the critical shortage in fertilizer so desperately needed by our farmers. It is evident that the House Committee has done a very thorough job of analyzing the problem, and I want to associate myself with the conclusions and recommendations of that report."

The House Sub-committee, headed by Representative Anton Johnson of Illinois, issued its report following an all-day hearing on January 31st at which members of the Council, transportation authorities and Government experts testified.

Although the findings of the House Sub-committee were not available for general distribution until a week after the Senate resolution had been introduced, meanwhile the staff of the Council conferred with Senator Butler in connection with his proposed investigation and furnished him with all available material concerning the current fertilizer outlook together with detailed statements on the testimony offered during the House investigation.

"We are not unmindful of the increasing concern over the fertilizer supply situation as expressed in numbers of letters from farmers to their Senators and Representatives," Mr. Woodrum said. "Consequently, we are taking every advantage of opportunities to cooperate in furnishing factual information that will be useful in better

acquainting farmers and others with the difficulties faced by industry in the new experience of having a demand for fertilizer in excess of supplies."

North Now General Manager of Union Special

Friends of William S. North, Union Special Machine Company, Chicago, Illinois, will be interested to learn that he has recently been made Assistant General Manager of the company in addition to his duties as Vice-President.

Mr. North has been active in the company for the past eleven years, both in Chicago and in the field. After serving in various departments of the factory and engineering department, he represented the engineering department in the Philadelphia, New York, and Boston territories. During the war and up until the present time, he served as Personnel Director of the Company in Chicago. In 1944, Mr. North was made a Vice-President of the company by action of the Board of Directors, and at the same time assumed certain duties in connection with the Sales Department and general administrative work

ability, his fine character and his business judgment and generous response to demands for his aid in the solution of problems of our industry, and

"Whereas his death deprives us of his wise counsel, his efficient and valuable support and his good fellowship,

"Therefore be it resolved: that the Board expresses its sincere sympathy to the members of his family and his business associates, and

"Be it further resolved: that copies of this resolution be spread on the minutes of the Board and sent to Mrs. Haynes and the associates of her late husband in his business enterprise."

Robert W. McClellan

Robert W. McClellan, special assistant to the general manager of the Du Pont Company's Ammonia Department, died at his home in Wilmington on February 11th. He had been ill since early in July when he was stricken by a heart attack while on a hunting trip in Canada.

Mr. McClellan, who began his career with the Du Pont Company in 1900 as a stenographer, was born in Rossville, Pa., on January 25, 1883. On October 15, 1900, he joined the Repauno Chemical Company, now a part of the Du Pont Company. Successively, he became chief stenographer, file clerk, and cost clerk, and, in 1904, he went to Joplin, Mo., as chief clerk and cashier of the Joplin Powder Company, now also a part of the Du Pont organization. After a year in Joplin, he became secretary and clerk for W. B. Lewis of the High Explosives Department of Du Pont, first in New York, then in Wilmington.

In 1915, he became assistant manager of the works supplies section of the High Explosives Operating Department and, in 1919, was made manager. In April, 1920, he became assistant director of the Service Department, and, a year later, returned to the Explosives Department as director of the control division. On March 13, 1929, he was transferred to the American Glycerin Company, as vice-president and general manager, becoming president and general manager on September 23, 1929.

He became director of sales for the Ammonia Department of Du Pont on June 1, 1930. He was named special assistant to the general manager on May 18, 1944.

Mr. McClellan is survived by his wife and one daughter, Mrs. James T. Challenger, Jr., of Wilmington.

Obituaries

Bayless W. Haynes

The fertilizer industry has lost one of its leading executives in the death on January 25th of Bayless W. Haynes, president of Wilson and Toomer Fertilizer Company, Jacksonville, Florida.

Mr. Haynes was an officer of the Company for more than 35 years, serving as Assistant Treasurer, later as Vice-President, and finally as President. He always took an active interest in industry affairs and served as president of the National Fertilizer Association in 1931-1932.

At the time of his death, he was a director of the American Plant Food Council, and the following resolution was passed at a recent meeting of the Board of Directors of that organization:

"Whereas the members of the Board have heard with deepest regret of the death of their colleague Bayless W. Haynes, President of Wilson and Toomer, and

"Whereas Mr. Haynes was a personal friend of all of the members of this Board and highly regarded for his charming person-

January Tag Sales Increase

Fertilizer tag sales in 16 states in January, based on reports of State control officials to The National Fertilizer Association, were equivalent to 1,435,000 tons. This represented an increase of 7 per cent over the equivalent tonnage for January 1946 and was the largest tonnage on record for any January. Tag sales, in equivalent tons, for the Southern States were 10 per cent greater than for the previous January while sales in the Midwestern States were 7 per cent less than for a year ago. January sales for 10 States increased while sales in the remaining 6 States decreased.

Tax tag sales for the July-January period, the first 7 months of the current fiscal year, were 27 per cent greater than for the similar

period of the past fiscal year. For the July-January period, sales in 1946-47 totaled 4,771,000 equivalent tons as compared with 3,771,000 equivalent tons in 1945-46 and 3,428,000 equivalent tons in 1944-45.

For July-January, sales in the 11 Southern States in the 1946-47 fiscal year increased 27 per cent over 1945-46 and 35 per cent over 1945-45. Each of the 11 States reported increases over the corresponding 1945-46 period. Tag sales in Oklahoma rose from 16,160 equivalent tons for 1945-46 to 41,795 for 1946-47, an increase of 159 per cent. The increase for the other 10 States, where the tonnage reported is much higher varied from 6 per cent for Louisiana to 89 per cent for Arkansas.

(Continued on page 30)

FERTILIZER TAX TAG SALES COMPILED BY THE NATIONAL FERTILIZER ASSOCIATION

STATE	JANUARY			JULY-JANUARY			
	1947 TONS	1946 TONS	1945 TONS	% OF 1946	1947 TONS	1946 TONS	1945 TONS
Virginia.....	93,614	80,710	77,677	116	333,355	288,077	264,309
North Carolina.....	322,218	293,965	262,415	129	848,652	658,596	581,505
South Carolina.....	194,895	159,889	161,618	148	485,002	328,739	342,578
Georgia.....	200,590	169,643	177,895	109	432,427	397,382	379,126
Florida.....	97,233	132,154	122,720	107	639,353	598,854	494,709
Alabama.....	167,200	123,300	159,750	161	388,100	240,500	290,050
Tennessee.....	15,483	25,452	21,584	146	117,093	80,133	94,638
Arkansas.....	25,600	13,900	37,200	189	80,300	42,400	70,300
Louisiana.....	22,650	28,460	41,261	106	150,607	141,684	124,626
Texas.....	43,074	51,662	44,610	159	214,934	135,405	113,743
Oklahoma.....	13,350	7,500	4,042	259	41,795	16,160	13,599
<i>Total South.....</i>	<i>1,195,907</i>	<i>1,086,635</i>	<i>1,110,772</i>	<i>127</i>	<i>3,731,618</i>	<i>1,927,930</i>	<i>2,769,183</i>
Indiana.....	80,587	83,223	43,550	117	472,220	403,029	313,142
Illinois.....	55,950	50,150	20,975	122	202,045	164,975	110,060
Kentucky.....	67,253	66,570	51,130	127	165,773	130,521	115,164
Missouri.....	26,890	53,087	27,028	120	147,868	123,113	98,363
Kansas.....	8,788	4,550	7,305	238	51,914	21,830	22,325
<i>Total Midwest.....</i>	<i>239,468</i>	<i>257,580</i>	<i>149,988</i>	<i>123</i>	<i>1,039,820</i>	<i>843,468</i>	<i>659,054</i>
<i>Grand Total.....</i>	<i>1,435,375</i>	<i>1,344,215</i>	<i>1,260,760</i>	<i>127</i>	<i>4,771,438</i>	<i>3,771,398</i>	<i>3,428,237</i>

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FERTILIZER MATERIALS MARKET

NEW YORK

No Sign of Slackening in Demand for All Fertilizer Materials. War Department to Return Borrowed Nitrogen. More Chilean Nitrate Expected. Potash Imports from Russia a Possibility. Organics Still above Fertilizer Levels.

Exclusive Correspondence to "The American Fertilizer"

NEW YORK, February 14, 1947.

Markets on all basic agricultural chemicals showed a sustained firmness in view of continuing abnormal demand from the farmers, and there is no indication that the supply situation will ease before the spring planting season.

The House Agricultural Sub-Committee investigating the shortages of fertilizer materials has recommended that exports of fertilizers be curtailed and that all government agencies involved should cooperate fully with the fertilizer industry to take care of the acute need for fertilizer this year. The War Department has announced that it is cutting down its fertilizer program and the nitrogen borrowed from industry will be returned by April. It is also disclosed that proper government authority is bringing pressure to bear for increased imports of Chilean nitrates to this country in time for the spring planting. Additional shipping space has been made available for this purpose.

It has been reported that potash produced in the Russian Zone of Germany is available for export to this country, but it does not appear that supplies from that source can be made available for U. S. agriculture during the current season.

Sulphate of Ammonia

Production is at near capacity levels, but increased supplies have been unable to take care of continuing heavy demand.

Nitrate of Soda

There is concern in the trade that there will be a shortage of this material for spring application, and it is hoped that government assistance, as indicated above, will tend to ease the supply situation. Domestic production is still hampered by lack of raw materials.

Organic Materials

A few reports of spot sales of such items as dried blood, tankage and bone meal are

to be noted, but the majority of fertilizer manufacturers are not inclined to contract at present prices. South American materials continue to go to European markets.

Superphosphate

This market is very firm at recently increased levels, and demand is still in excess of supply. Foreign inquiry is active, but few exports are to be noted.

Potash

Shipments to fertilizer manufacturers are holding up in record amounts in spite of transportation difficulties. It is felt throughout the industry that government allocations will be removed by March 31st, but no definite announcement of this fact has been issued from Washington as yet. Demand for the next period is exceedingly heavy with no possibility of being satisfied.

CHARLESTON

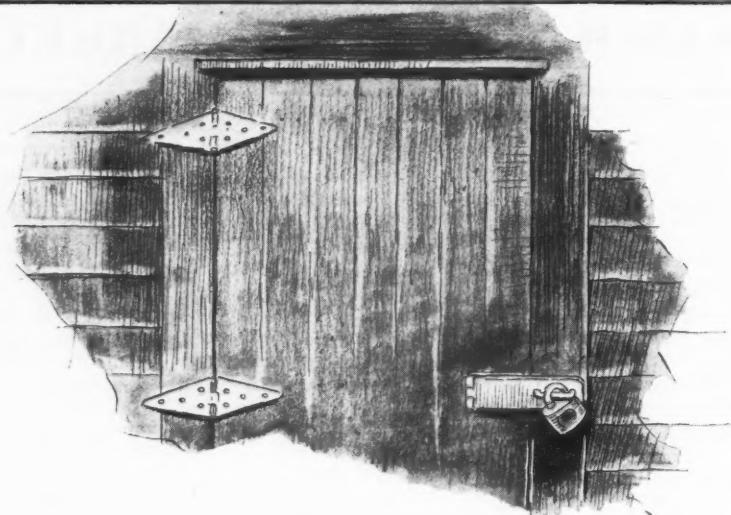
Large Part of Mixed Fertilizer Production Already Shipped. All Materials in Very Tight Supply. Car Shortage Continues.

Exclusive Correspondence to "The American Fertilizer"

CHARLESTON, February 15, 1947.

It is reported many manufacturers have shipped 60 to 70 per cent of their production of mixed goods. Production for 1946-47 in mixed goods is expected to reach a new high in spite of material shortages and shipping difficulties. Organics are in fair supply but the bottleneck in materials are mineral nitrogen, potash and superphosphate.

Organics.—Nitrogenous tankage remains firm at \$6.00 and \$4.75 per unit ammonia, f.o.b. Mid-western production point, depending on the producer. Demand has slackened on organics such as vegetable meals as the market has weakened further. Peanut meal, 45 per cent protein, is quoted around \$58.00 bulk in the Southeast. Cottonseed meal is



It's too late to lock the barn door after the horse has been stolen

Likewise, it is too late to change a faulty shipping container after the product has been packed and shipped. The sure way of protecting against shipping losses is to be certain of the container before shipping.

Raymond Multi-Wall Paper Shipping Sacks are specially designed to protect your products against just such shipping losses. CUSTOM BUILT Raymond Shipping Sacks are tough, strong, and dependable; their Multi-Wall construction insures adequate protection against handling losses, contamination, and moisture. They are made in a variety of strengths, sizes, and types, printed or plain, pasted or sewn, with valve or open mouth. For the utmost in product protection, specify Raymond Shipping Sacks.



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quoted in bulk at around \$65.00 for 8 per cent and \$60.00 for 7 per cent delivered Southeastern points. Soybean meal, 41 per cent, in bulk is about \$65.00 delivered Southeastern points. Very little South American organic material is being imported for fertilizer use and the South American market is about 10 per cent to 30 per cent higher in price than domestic views, depending on the material.

Castor Pomace.—No reported change in the price though some re-sale material was recently offered at \$45.00 to \$47.00, f.o.b. New Jersey production point. Increased imports of castor beans are expected to ease the supply situation somewhat in the next few months.

Hoof Meal.—Demand is light and price is around \$8.50 per unit ammonia (\$10.33 per unit N), f.o.b. production point.

Blood.—Demand is fair to feeders and price is nominally \$8.00 (\$9.72 per unit N), f.o.b. New York and Chicago. Fertilizer manufacturers show light demand.

Tankage.—Wet rendered tankage is nominal at around \$7.25 per unit ammonia (\$8.81 per unit N), f.o.b. New York. Demand is narrow.

Nitrate of Soda.—Domestic production is still hampered by shortage of raw materials. Demand is strong and supply short. It is reported sizeable quantities will be imported in March but shipment of the original allocation of 600,000 tons for this year may not be completed in time for use this season.

Sulphate of Ammonia.—Market is tight as supplies remain below demand. Some producers in the Birmingham district are reported to have raised the price \$2.00 to \$2.50 per ton as of February 1, 1947.

Ammonium Nitrate.—Demand is extremely strong and supply inadequate to meet the call. Price remains firm at \$46.00 f.o.b. Sheffield, Alabama, for buyers in the South-

east. West Coast prices range from \$63.50 to \$65.00 delivered California points.

Potash.—Demand is heavy and supply far behind due to insufficient production, car shortages, delay shipments.

Superphosphate.—Market remains tight and prices vary from 65 cents to 80 cents per unit of A.P.A., depending on the point of production and whether a sale is made in consideration for a purchase of other short materials.

Phosphate Rock.—Car shortages continue to delay shipments and demand is strong. Prices remain firm.

PHILADELPHIA

Fertilizer Supply 20 Per Cent Short of Demand. Increase in Chemical Nitrogen Reported. Phosphate Rock Short.

Exclusive Correspondence to "The American Fertilizer"

PHILADELPHIA, February 15, 1947.

It is estimated that the fertilizer materials supply is about twenty per cent short of the requirements for this season, and as previously reported Congress is investigating.

Sulphate of Ammonia.—Production has improved and shipments are moving along, but there is still not enough to keep up with the demand. The price advance recently suggested does not seem to have taken place in this area.

Nitrate of Soda.—Situation remains unchanged, with the seasonal demand in excess of supply. Arrival of important quantities is, however, expected soon. Domestic production continues to be held back by scarcity of raw materials.

Castor Pomace.—This material continues to move on contracts, with no original offerings.

Blood, Tankage, Bone.—These articles are not very freely offered, while on the other hand there is an absence of any active buy-

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Sulphate of Ammonia

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ing interest. The general market, though mostly nominal, is still quite strong with blood quoted at \$8.25 to \$8.50 per unit of ammonia (\$10.02 to \$10.33 per unit N), and tankage \$7.25 to \$8.00 (\$8.81 to \$9.72 per unit N). Bone meal has not been in very ample supply, with limited offerings at \$65.00 to \$75.00. While the feeding trade is rather neglecting these animal organics in favor of oil cake meals, the demand for the latter does not justify the market strength shown, and it is thought this firmness may be due to increased export permits recently issued.

Fish Scrap.—There is now practically no market for this article, although some little fish meal appeared this week priced at \$135.00 per ton.

Phosphate Rock.—The general situation remains the same so far as the domestic supply is concerned, and superphosphate manufacturers continue to call for more rock than can possibly be mined and shipped.

Superphosphate.—Buying situation is definitely tight, with strong demand, and the supply still inadequate.

Potash.—Supply continues short of demand, and it is feared this condition will not improve during the 1946-47 season.

CHICAGO

No Fertilizer Organics on Market. Feed Demand Continues Strong.

Exclusive Correspondence to "The American Fertilizer"

CHICAGO, February 15, 1947.

No fertilizer tankage or other animal organic material has appeared on the market during the interim. Inquiry is still quite active.

In feeds wet rendered tankage remains at \$7.50 to \$8.00 per unit ammonia (\$9.12 to \$9.72 per unit N), basis Chicago, and dry rendered nominally at \$1.40 to \$1.54 per unit protein, f.o.b. shipping point. Last sales of unground blood were at \$8.00 to \$8.25 per unit ammonia (\$9.72 to \$10.02 per unit N) delivered buyers' plant, dependent on freight.

First Post-war Tankage Imports Reach New York

Within the past two weeks, the first shipments of foreign tankage in any sizeable quantity were reported as being received at the port of New York. One lot of 50 tons of dried rendered tankage came from Uruguay, while another of about 500 tons was received from Argentina.

CASE HISTORY No. 12

One in a series of factual experiences of a group of American manufacturers with Multi-wall Paper Bags.

COST COMPARISON (Per Ton)

	100-lb. Drum	100-lb. Paper bag
Container cost	\$14.00	\$2.00
Labor cost	4.16	1.00
Total bag cost	\$18.16	\$3.00
Saving per ton paper bags over drums	\$15.00	

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PRODUCT CHARACTERISTICS

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Faced with the high cost of drums being used for packaging of the powder, and confronted by a shortage of labor, the Company installed a labor-saving 100-LS St. Regis packer in 1944 and switched to multiwall paper valve bags. Here are some of the immediate results:

• Container costs dropped from \$14 to \$2.60 a ton — a saving of 81%.

• Packaging output, although limited because of material shortages, increased from 2,500 to 6,000 lbs. per hour.

• Packaging costs went down 80%.

• Labor requirements dropped from five to three men.

• Much valuable storage space was saved by compact Multi-walls.

• Dust was eliminated from the packaging operation.

So satisfied is the Company with its St. Regis Packaging System that it has ordered and received shipment of another 100-LS packer in anticipation of increased output when shortages of ingredients are eliminated.

Mail this coupon to get the detailed picture story of how a St. Regis Packaging System helped this small manufacturer achieve economical and efficient packaging.



Left: One man operates the St. Regis 100-LS packer.
Right: Conveyor takes filled bags to loading point.

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Lack of Fertilizers Limits World Food Output

World supplies of nitrogenous fertilizer for use in 1947 will fall greatly short of the demand. This shortage, combined with lack of sufficient phosphorus and potash supplies, will limit production of needed food, according to an appraisal of the world outlook for commercial fertilizer in 1946-1947, made by the Committee on Fertilizers of the International Emergency Food Council.

The report characterizes the shortage of nitrogen as most serious and places it at 761,000 metric tons of nitrogen, or the equivalent of 3,805,000 metric tons of sulphate of ammonia. The deficit of all the fertilizer elements, nitrogen, soluble phosphates, and potash, is placed at 2,261,000 tons—even though world production of fertilizer will be some 15 per cent greater than prewar. The increase in output has occurred mainly in North America, where the use has increased also. Consequently, import requirements for other regions where output has decreased go unsatisfied, though world output has grown.

"Fertilizer shortages will be characteristic of the spring season of 1947, and the struggle

between countries to obtain larger supplies, particularly of nitrogen, will continue into the next year and possibly for several years," the committee states.

The membership of the Committee on Fertilizers includes representatives from Australia-New Zealand, Belgium, Canada, Chile, China, Denmark, France, India, Netherlands, Norway, the United Kingdom and the United States. The chairman is G. J. Callister of Canada.

The Committee reports that the deficit in fertilizers for the current year is the largest since the war started, despite the fact that world output has increased over prewar. "Chiefly the causes are," the report states, "(1) demand for fertilizers of liberated and starving countries, for so long deprived of supplies necessary to maintain soil fertility, has increased even more greatly than the output; (2) the lower postwar output of nitrogen in Europe, especially Germany, which has raised the demand for imports; (3) higher farm income in some countries enabling farmers to purchase more fertilizers; and (4) everywhere a keen sense of moral obligation to feed hungry peoples.

"To lessen the shortages and alleviate their effects, the Committee has emphasized



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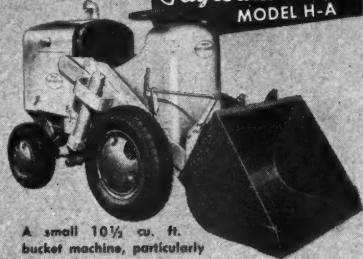
Manufacturers of Three Elephant Borax and Boric Acid

See page 27

Versatile Tractor Shovels

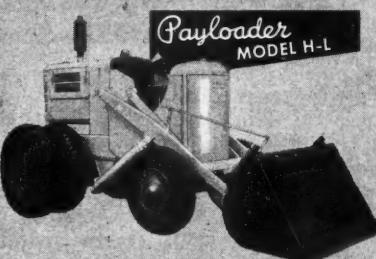
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MODEL H-A



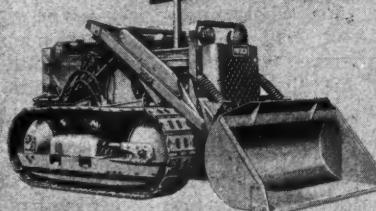
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A larger 1 yd. machine for additional capacity. Convertible for crane use or bulldozer or draw-bar service. Gasoline or Diesel power.

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increasing output by rehabilitating plants and facilities capable of producing and distributing fertilizers and has recommended allocations for equitable distribution of the fertilizers available to importing countries.

"For the current year unanimous agreements have been reached between the members of the Committee on recommendations for allocation of more than 13,000,000 metric tons of phosphate rock and some 9,600,000 metric tons of actual plant nutrients. Co-operative action between countries has been completely attained. However, there is developing an increasing desire by producers to sell in permanent markets which do not always coincide with the areas of greatest need: thus new problems may arise in future attempts to distribute fertilizers equitably to over 100 claimant countries.

"Alive to the need for freeing world trade in fertilizers from all artificial restrictions as soon as possible, the Committee has recommended that rock phosphates becoming available after January 1, 1947, be unallocated, since the supply of this item is improving. To what extent the work of the Committee in recommending allocations should be carried on after June 30, 1947, might well be considered in the near future.

"The production of phosphate rock and

potash, and to a lesser degree of soluble phosphates, have improved during the present year in relation to demand. The lack of international allocations might not affect the distribution of these materials, particularly of phosphate rock, to a serious degree in 1947-48.

"The equitable distribution of nitrogen in 1947-48, however, is a much more difficult problem. From the point of view of production, the three groups comprising the more than 100 claimant countries, are very different in relation to their ability to secure fertilizer supplies. The 5 countries having excess nitrogen, and the 12 countries having an excess of other fertilizer materials, in the absence of a system of world allocations, will be in a much better trading position to secure their quota of fertilizers than the other nations who must depend almost entirely on the 17 major exporting nations for their supplies."

Farm System Decides Fertilizer Needs

"How much fertilizer should I use in grain and livestock systems of farming?" is a common question being asked agronomists at Purdue University, Indiana, this winter.

G. P. Walker, extension agronomist, bases his answer on results obtained from the long-time operation of these two systems on two Purdue experimental fields. In the livestock system on the Soils and Crops Farm located near Lafayette, 300 pounds of 2-12-12 fertilizer on wheat and 100 pounds of 0-12-12 in the hill for corn in combination with eight tons of manure has produced an average of 78 bushels of corn and 40 bushel of wheat per acre during the past six years, in a rotation of corn, wheat and clover. The same amounts of 2-12-20 fertilizer with manure have produced yields averaging 90 bushels of corn and 30 bushels of wheat per acre in the same rotation on the gray silt loam soil of the Jennings County Experiment Farm neat North Vernon.

In the livestock system of farming, all the phosphate and about 55 to 60 per cent of all the potash removed in the harvested crops have been returned to the soil. The profits over costs, during this period, have been larger from these treatments than from any which restored less phosphate and potash to the soil.

In a straight grain system of farming, corn, soybeans and wheat (with sweet clover intercrop), the agronomist points out that on the



FERTILIZER GRINDER

"Jay Bee" grinds every grindable fertilizer ingredient, coarse or fine, cool and uniform.

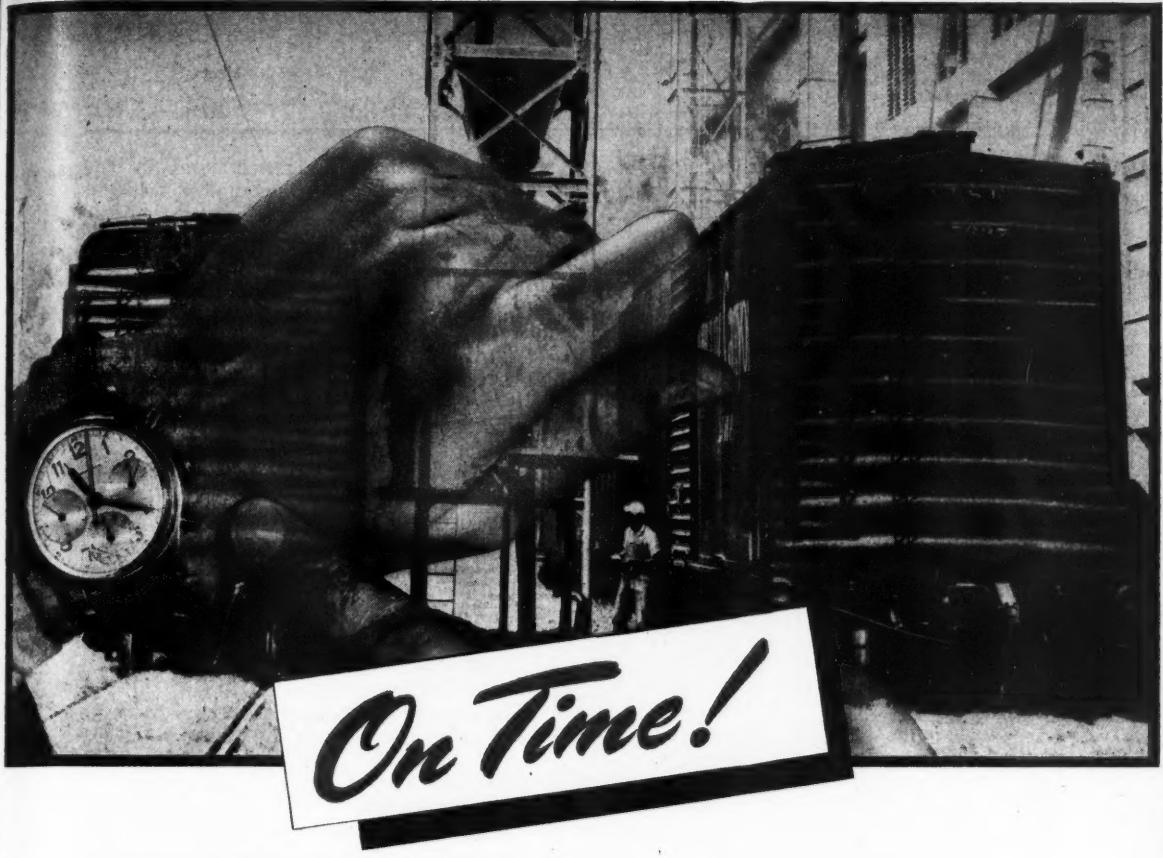
All steel construction—heavy cast iron base. Practically indestructible. Biggest capacity for H.P. used. Handles products with up to 14% grease—30% moisture. Delivers finished products to storage bins without screens or elevators. Sizes and styles from 20 H.P. to 200 H.P. to meet every grinding requirement.

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Buyers know from long experience that they can depend on International for large production ca-

pacity, for high grade Phosphates which meet specifications, for efficient service facilities and for the habit of making good on its deliveries.

International has extensively mechanized its Phosphate Rock mining operations and is increasing its Florida production more than 1,000,000 tons in 1947.

As a result, International will be better equipped than ever before to supply the essential Phosphates which play a vital part in the quantity and quality of food crops in America and throughout the world.

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Lafayette farm, yields averaging 76 bushels of corn, 30 bushels of soybeans and 36 bushels of wheat per acre were produced during the same period. The fertilizer used was 300 pounds of 3-12-12 on wheat, 100 of 0-12-12 in the corn hill, 60 pounds of potash plowed under for corn and 20 pounds of nitrogen broadcast on wheat in April. Under this system of fertilization the equivalent of all the phosphate and potash removed in the harvested grains was also returned to the soil and likewise produced larger returns over costs than were obtained from comparative studies where lesser amounts of fertilizer were applied.

Record Year in Soil Conservation

Record accomplishment the past fiscal year in putting conservation work on United States farmland was cited by Chief H. H. Bennett of the Soil Conservation Service in his annual report to Secretary of Agriculture Clinton P. Anderson.

Also significant in the 1945-1946 conservation year was the fact that the last of the 48 states enacted laws providing for organization of farmer-voted and farmer-managed soil conservation districts through which these soil and water-saving practices are being applied, or for working arrangements of similar nature.

Pointing out that the Service has set itself the task of doing twice as much conservation work in the current fiscal year as was done last year, Dr. Bennett explained:

"This means that if we are successful we will establish combined practices on more than 30 million acres of farm land during the fiscal year of 1947, in comparison with almost 16 million acres covered in the fiscal year 1946. It means that by July, 1947, the total

acreages of farm and ranch land in the United States covered by complete soil and water conservation farming programs will be around the 115-million-acre mark. A corresponding increase is expected in the preparation of conservation farm plans which must precede application of measures to the land."

The 102,293 such plans prepared at the request of soil conservation district farmers and ranchers last year—affecting more than 25 million acres—brought to better than half a million the number of these acre-by-acre farm plans drawn up by the farmer and technician according to the needs and capabilities of the land. By June 30, 1946, the report showed, about 156 million acres thus had been planned in districts or under demonstration programs before districts were first formed in 1937; and 86½ million acres had been treated with needed combinations of practices for permanent erosion control and water conservation.

The extent of farm land protected by some of the major practices at the end of the fiscal year is shown in these totals: 9½ million acres of contour cultivation, more than 2½ million acres each of cover crops and strip cropping and 9½ million acres of crop residue management, 334,000 miles of terraces built, almost a million acres of farm drainage, 24½ million acres of range properly stocked and almost 4 million acres of range and pasture seeded, 3 million acres of farm woodland improvement, 48,000 farm and ranch ponds built, a quarter of a million acres of tree planting, and hundreds of thousands of acres of conservation farm irrigation work done.

Conceding that the goal of doubling conservation production in 1947 over 1946 is high, the Soil Conservation Service chief said:

"But we believe it is necessary. The work

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 OFFER DEPENDABLE PROTECTION FOR
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THE strategic factory locations of The American Agricultural Chemical Company, as shown on the accompanying map, assure prompt, dependable service for the complete line of products listed below.

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Charleston, S. C.	Henderson, N. C.	Norfolk, Va.	Wilmington, N. C.
Cincinnati, Ohio	Houlton, Me.	No. Weymouth, Mass.	
Cleveland, Ohio	Laurel, Miss.	Pensacola, Fla.	



of stabilizing our farm land is vital to the national welfare, and must move ahead with even greater speed, for it has been too long retarded . . . Finally, with the aid of this new technique (soil conservation districts and conservation farming), the American farmers are definitely turning the tide; we are winning the fight against the greatest common enemy to productive land—uncontrolled soil erosion."

He likened the average American farm to a patient beset with a complication of diseases, many of which are beyond the powers of "home doctoring," or even of the general practitioner. Specialists are needed, he said; and these specialists are technicians of the Service assigned to the districts, at the district supervisors' request, to help diagnose and treat ailing land. There were 1,637 soil conservation districts reported at the close of the fiscal year. They covered more than 883 million acres and nearly 4 million farms.

Cautioning that half-way measures or "quick" erosion methods do not actually control erosion, but in many cases only aggravate it, Dr. Bennett defined real soil conservation as proper use and care of the land so that it will produce the greatest amounts of products most needed while at the same time protecting the land from loss of productivity.

"Where it has been practiced," he reported "soil conservation farming has resulted in at least a 20 per cent increase in production per acre, as an average. It has provided a practical guide to greater crop diversification and has, as a matter of record, resulted in greater diversification. It has meant increased income to the farmer and savings in seed, fertilizer, labor, and power. It has accounted for a high degree of land protection, even under the pressure of intensified wartime production.

"It has provided the farmer and ranchman with a practical, physical guide for shifts in the type or intensity of production that may become wise in the years ahead in order to meet possible changes in the price and demand for farm commodities."

Emphasizing that "only with real soil conservation can we have permanently productive land for a permanent agriculture capable of supporting a permanent nation," and that "there are no short cuts, no panaceas, no alternatives to effective soil conservation," Dr. Bennett concluded:

"It is because of the experience our engineers and other technicians have had in applying complete conservation programs to 86,000,000 acres of land that we face with confidence the task of greatly increasing our (conservation) production in 1947."

Fertilizer Pays Good Return on Corn

Woodrow Lancaster, Gibson County, Tennessee, farmer, "bought" 37 bushels of corn at 30 cents per bushel, and 53 bushels at 43 cents last year, says T. R. Wingo, Gibson County Agent. The "buying" was done with fertilizer, Wingo explains, presenting figures to show that the fertilizer paid for itself with a nice profit left.

Lancaster gave a corn growing demonstration on three acres. One acre as a check plot was left unfertilized. One of the fertilized acres was given a plow-down treatment of 500 pounds of nitrate of soda, and 500 pounds of 3-9-6 fertilizer. Two hundred pounds of 3-9-6 was used as a starter in the row at planting time. The total cost of fertilizer on this acre was \$23.15, and the yield was 109.44 bushels.

The second acre was given a row application of 400 pounds of 4-12-4, and 200 pounds of nitrate of soda as side dressing. The fertilizer cost was \$11.30, and the yield was 93.33 bushels.

On the unfertilized check acre, Lancaster received a yield of 56.11 bushels. Thus, the county agent points out, on one acre he received a 37.22 bushel increase at the rate of 30 cents per bushel; and on the other acre he received an increase of 53.33 bushels for 43 cents per bushel. And, it is pointed out, this is not taking into account the carry-over value of the fertilizer.

Potash Shortage Should End in 1948

With some progress being made in increasing German production and exports of potash, the world supply is moving toward a balance with demand in 1948, the committee

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When Boron deficiencies are found, follow the recommendations of local County Agents or State Experiment Stations.

Information and references available on request.

AMERICAN POTASH & CHEMICAL CORPORATION

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Pioneer Producers of Muriate of Potash in America

See Page 36

on fertilizers, International Emergency Food Council reported recently.

Proposed export of 510,000 metric tons K₂O from Germany is the chief problem in the potash program, the committee said, adding that progress is being made in shipping this tonnage.

The distribution of phosphate rock and soluble phosphates is said, and with progress being made in restoring German and Japanese manufacturing capacity for soluble phosphates, release of phosphates from international allocation next year "might cause no particular disturbance in world markets."

The committee made no recommendations for future allocation of phosphates and potash, but indicated that supplies in 1947-48 may be sufficient to permit free trading in these materials.

Present world production of these materials has increased substantially over the 1936-39 average. Pre-war output of phosphate rock was 12,192,000 metric tons compared with a 1946-47 estimate of 13,687,000 tons. Soluble phosphates production increased from 3,530,000 metric tons P₂O₅ to an estimated 4,198,000 tons, and potash from 2,735,000 metric tons to 2,856,000 tons.

Nevertheless, increased world demands have created a shortage this year of 1,114,000 metric tons of soluble phosphate, 1,183,000 tons of phosphate rock and 386,000 tons of potash K₂O, the committee said.

Sulphate of Ammonia, 1946

Production of by-product sulphate of ammonia during 1946 amounted to 643,764 tons, according to the preliminary figures of the U. S. Bureau of Mines. This is a decrease of 120,000 tons from the 1945 output of 764,293 tons, and is due entirely to the loss of production from the steel, coal and railroad strikes during the first half of the year. Pro-

duction during February and May of 28,576 and 31,359 tons respectively was less than half the normal tonnage to be expected during these months.

By-product ammonia liquor showed a smaller drop than sulphate, from 27,607 tons NH₃ in 1945 to 24,997 tons in 1946.

During December, 1946, production and sales of sulphate of ammonia were 57,117 and 58,842 tons respectively, with stocks on hand totaling 33,398 tons at the end of the year. The figures for December and for 1946 production are as follows:

	Sulphate of Ammonia Ammonia Tons	Liquor Tons NH ₃
Production		
December, 1946.....	57,117	2,214
November, 1946.....	59,294	2,438
December, 1945.....	63,478	2,314
Sales		
December, 1946.....	58,842	2,214
November, 1946.....	69,045	2,112
December, 1945.....	57,689	2,072
Stocks on Hand		
December 31, 1946.....	33,398	641
November 30, 1946.....	35,389	805
December 31, 1945.....	32,175	854

	PRODUCTION, 1946	Sulphate of Ammonia Ammonia Tons	Liquor Tons NH ₃
January.....	43,523	2,074	
February.....	28,576	1,641	
March.....	61,187	2,291	
April.....	47,222	2,051	
May.....	31,359	1,466	
June.....	54,633	1,869	
July.....	64,865	2,158	
August.....	65,251	2,237	
September.....	64,074	2,240	
October.....	66,663	2,318	
November.....	59,294	2,438	
December.....	57,117	2,214	
Total, 1946.....	643,764	24,997	
Total, 1945.....	764,293	27,607	

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JANUARY TAG SALES

(Continued from page 14)

Midwestern sales were 23 per cent more than a year ago. Tag sales in Kansas increased more proportionately than in any of the other 4 Midwestern States but the equivalent tonnage reported for Kansas is still far below that reported for any of the other 4 States. Tag sales, in equivalent tons, for Indiana during the first 7 months of the current fiscal year increased 17 per cent over sales for the similar 1945-46 period; sales for Missouri were 20 per cent higher, sales for Illinois were 22 per cent higher and sales for Kentucky were 27 per cent higher than for July-January 1945-46.

VIRGINIA FERTILIZER EXPERIMENTS

(Continued from page 9)

seeding time with corn and a similar amount put down at the second cultivation is a good practice. Twenty-five pounds of nitrogen at seeding time and 25 pounds applied about February 15 produced excellent wheat yields.

Source of Phosphorus for Dunmore Pastures*John D. Pendleton*

A study of herbage at Blacksburg on a Dunmore silt loam as influenced by various sources of phosphorus showed the following order of efficiency, (basis of P_2O_5 equivalent): dicalcium phosphate, superphosphate, triple superphosphate, basic slag, tricalcium phosphate and raw rock phosphate. This data was published in Technical Bulletin No. 80.

A related project, on Emory silt loam at the Southwest Virginia Field Station (Washington County), brought out the fact that limed plots gave a more desirable herbage than the unlimed and that triple superphosphate proved superior, followed by the

other sources of phosphate in this order: dicalcium phosphate, raw rock phosphate, basic slag, superphosphate and tricalcium phosphate.

Soil Fertility Studies in TVA Area of Virginia*John D. Pendleton*

Coeburn silt loam soil demonstrated a marked response to lime and fertilizer treatment in an experiment in Wise County to determine the nutrient requirements of pastures. In 1945, an increase in yield of 1943.9 pounds of air-dry hay was obtained from the use of one ton of ground limestone applied in 1940 and again in 1944. The application of 300 pounds of a 12-36-12 fertilizer per acre per year with lime over a five-year period surpassed any other treatment during the same years. The most striking result was the superiority of the pasture on the treatments receiving lime over those receiving no lime.

Triplephosphate, Potash and Lime*John D. Pendleton*

Starting in 1939 on pastures in Tazewell County, the work involved the application of different rates of triple superphosphate with and without potash and lime. From 200 to 1600 pounds of triple superphosphate per acre were put down on Carbo silt loam and Hayter fine sandy loam. The most marked results to come from this experiment so far is the superior sod of desirable grasses, Kentucky blue, redtop, timothy and meadow fescue and white clover grown where the 1600 pounds of triple superphosphate was applied. Lime and potash were especially effective with low rates of superphosphate on the Hayter experiment.



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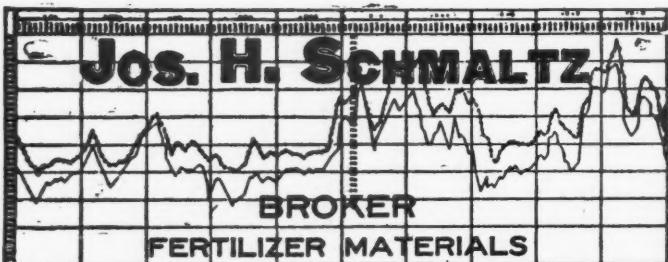
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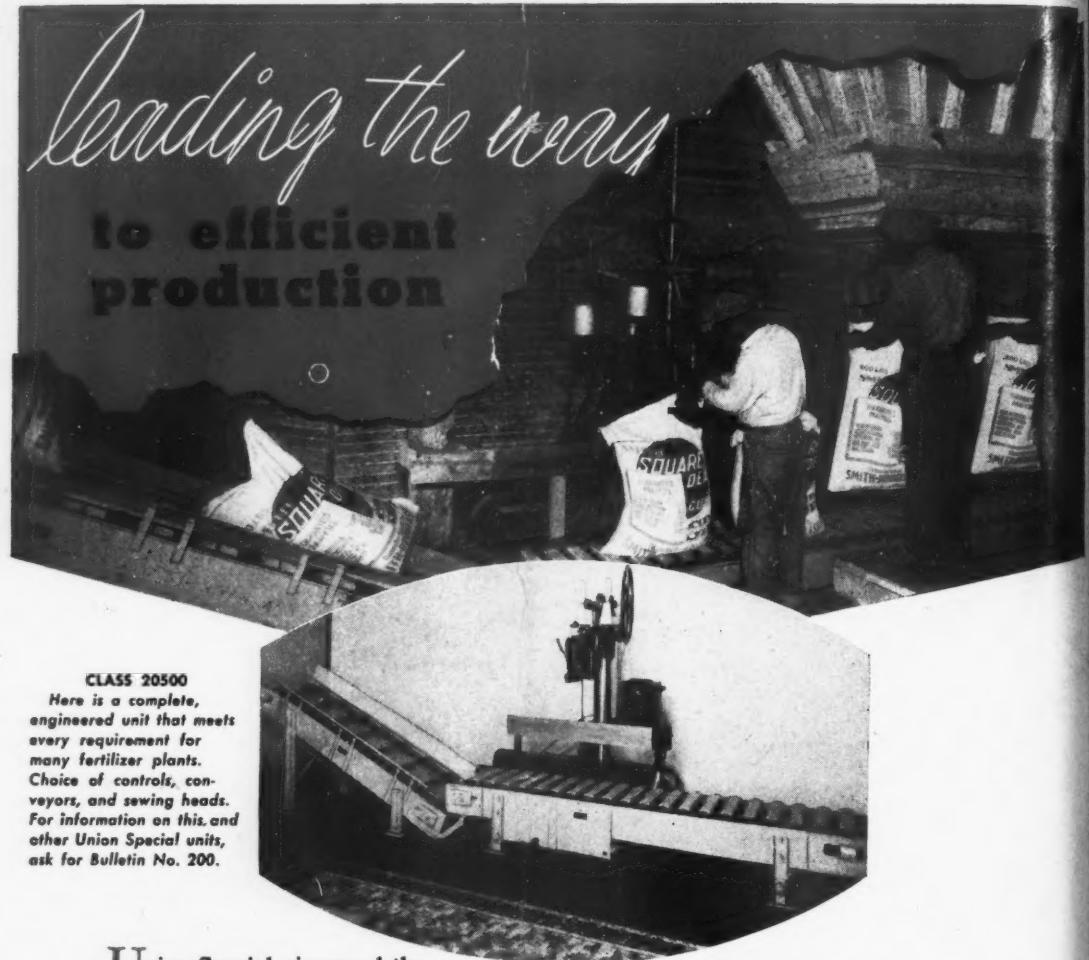
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